## REMARKS

The remaining claims, as amended, are clearly not disclosed by or suggested by the references, whether looked at individually or in combination.

Craig (4,740,836) indeed describes the use of two-mirror "periscopes" to view a vertically-arranged stereoscopic image-pair. Huang (5,943,165) claims a head-mounted device that uses a pair of two-mirror periscopes (a periscope for each eye) for viewing a vertically-arranged stereoscopic image-pair. Huang's device includes manual adjustment of mirror angles, to fine-tune the apparent convergence of the two images. However, Huang's adjustment is intended to accommodate the viewer's choice of a convenient or comfortable distance from the viewed images. By contrast, the present invention's adjustment intends to allow a single viewing-device to serve in multiple implementations of the invention, in each of which the viewer-to-image distance is fixed.

Importantly, neither Craig nor Huang addresses a significant flaw in their method of viewing, e.g., vertically arranged images. To understand this flaw, notice that one eye views its respective image from a low angle (i.e., from level with the bottom of the image), while the other eye views its image from a high angle (i.e., from level with its image's top). This disparity distorts the stereoscopic meld of the two images, effectively giving the perceived 3D image a "twist" about its X-axis (which runs viewer-left to -right). As the present applicant has described, such a disparity may be negligible when the viewer-to-image distance is sufficiently large. But when the viewer is relatively close to the image (as required for an "immersive" viewing experience) the warping effect is pronounced.

Indeed, if the periscopes are made sufficiently "tall" (so that the secondary mirror of each is level with the center of its respective image), then the disparity is eliminated. But that solution makes the resulting viewing device both unwieldy and image-dependent.

By contrast, the present invention has the advantage of benefiting from the *smallest* practical periscope, which *increases* the aforementioned disparity. As a further advantage, a periscope is provided for only *one* of the user's eyes, which introduces a new disparity, owing to unequal optical path lengths (because only one eye traverses the periscope "detour").

*Both* of these disparities, however, are counteracted by the present invention's deliberate re-shaping of (at least one of) the images prior to viewing. This unique approach relies on a single eye's inability to readily perceive depth (and thus to perceive that its target image may actually be tilted away at the top, e.g.). This makes the present invention especially suitable for immersive close-up viewing of images on typical "flat" media, e.g., computer, TV, or wall. With respect to the deliberate pre-distortion of images, there is indeed substantial prior art employing similar procedures, perhaps even including the earliest uses of *trompe l'oeil*, false perspective, etc. Surati (6,456,339), for example, distorts the component images shown by multiple projectors (each having positional and functional idiosyncrasies) to enable the images' seamless assembly into a single large projected image. But, although Surati does use image pre-distortion to "normalize" multiple projectors' images, the present invention's use of this technique is highly specific to the fixed distortion dictated by its stereoscopic-viewing methodology. (By contrasting example, both Surati's and Toriu's (6,124,685) inventions incorporate test-patterns and sensors to determine *ad hoc* what corrective distortion to apply to each projector.)

Aalto (5,886,817) describes a device that exploits the redirection of a single eye in order effect a stereoscopic meld. But, beyond appreciating the practicality of such redirection, Aalto's actual device seems quite non-specific. Notably, Aalto describes an "optical aid freely displaceable between the eye and the second image", which aid is NOT "arranged fixedly before the viewer's eyes [forcing the viewer] to move closer to and farther off the image". By contrast, the present invention *is* effectively fixed before the eye, and specifically *does* force the viewer to adjust the image distance, to that prescribed by the image's distortion. Aalto's device further purports to be "very small and light, which [according to Aalto] means that it may be a portable device, a table device etc." By contrast, the present invention resembles a mere pair of spectacles (albeit lopsided). It seems fair to say that Aalto's invention addresses the problem of a non-proximate pair of stereo images. By contrast, the present invention refines the viewing of conventionally proximate images.

In summary, it is felt that the present invention provides a novel and effective method of stereoscopic viewing, having significant advantages of flexibility, quality, and economy over known prior art.

Also enclosed is a 3-Month Petition for Extension of Time to file this Response. Please charge the Petition Filing Fee of $465.00 to our Deposit Account No. 50-1582.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned in Westborough, Massachusetts, (508) 898-1501.

Respectfully submitted,

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Appendix of marked version of amended claims

14. (once amended) A system for stereoscopic viewing of an image, comprising:

means for displaying upon a generally flat surface a conventional stereoscopic pair of images, proximate but separately from one another; [and]

means for improving the stereoscopic match between the two images as viewed, by distorting at least one of the images; and

an optical device adapted to be placed in front of and proximate to a viewer's eyes, which device is worn by the viewer or held by the viewer as though worn, and comprising means for re-angling the optical axis for at least one eye, so that each eye generally targets the center of a respective one of the pair of images.

18. (once amended) The system of claim 14, in which at least one image is deliberately distorted prior to display, to counteract distortion caused by the viewer's [position] perspective relative to the image.

19. (once amended) The system of claim 14, in which at least one image is deliberately distorted prior to display, to counteract [distortion] image-mismatch caused by the viewing-device.

41. (once amended) An image display structure for displaying upon a generally flat surface, comprising:

a conventional stereoscopic pair of images, the images proximate but separate from one another, wherein at least one image is deliberately distorted prior to display, to counteract distortion caused by the viewer's [position] perspective relative to the image.

42. (once amended) An image display structure for displaying upon a generally flat surface, comprising:

a conventional stereoscopic pair of images, the images proximate but separate from one another, wherein at least one image is deliberately distorted prior to display, to counteract [distortion] image-mismatch caused by a viewing-device.